Honeycomb Rectangular Disks

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Abstract

In this thesis, we propose a variation of honeycomb meshes. A honeycomb rectangular disk HReD(m,n) is obtained from the honeycomb rectangular mesh HReM(m,n) by adding a boundary cycle. A honeycomb rectangular disk HReD(m,n) is a 3-regular planar graph. It is obvious that the honeycomb rectangular mesh HReM(m,n) is a subgraph of HReD(m,n). We also prove that HReD(m,n) is hamiltonian. Moreover, HReD(m,n)-f remains hamiltonian for any $f \in V(HReD(m,n)) \cup E(HReD(m,n))$ if $n \geq 6$.

Keywords: hamiltonian, honeycomb mesh